

REMARKS

Applicants have amended claims 10 and 50 to correct a minor typographical error and have amended claims 1, 42, 82, and 92 for the reasons set forth below. In view of the above amendments and the following remarks, reconsideration of the outstanding office action is respectfully requested.

The Office has rejected claims 17-20 and 57-60 under 35 U.S.C. 112, first paragraph, asserting Applicants have not provided a written description of converting at least one partial differential equation system included in a combined system of partial differential equations from coefficient to general form. Additionally, the Office has rejected claims 34 and 74 under 35 U.S.C. 112, first paragraph, asserting Applicants have not provided a written description for the systems being modeled are three-dimensional geometry models.

With respect to claims 17-20 and 57-60, the Office's attention is respectfully directed to FIG. 11 and page 54, lines 17-19 in the above-identified patent application which illustrate and disclose the conversion of at least one partial differential equation system included in said combined system of partial differential equations from coefficient to general form. Additionally, with respect to claims 34 and 74, the Office's attention is respectfully directed to page 17, lines 5-16 which discloses that one of said plurality of systems being modeled is a three-dimensional geometry model which may be partitioned into tetrahedrons, blocks, or other shapes. Accordingly, in view of the foregoing amendments and remarks, the Office is respectfully requested to reconsider and withdraw the rejection of claims 17-20, 34, 57-60, and 74.

The Office has rejected claims 1-33, 35-36, 39-73, and 75, 76, 79-101 under 35 U.S.C. 102(b) as being anticipated by FEMLAB 1.0 product documentation, claims 34 and 74 under 35 U.S.C. 103(a) as being unpatentable over FEMLAB 1.0 product documentation in view of PDE Toolbox, and claims 37-38 and 77-78 under 35 U.S.C. 103(a) as being unpatentable over FEMLAB 1.0 product documentation in view of "Primer on Object Oriented Programming" by Mike Wilks ("Object Oriented Programming").

FEMLAB 1.0 product documentation, PDE Toolbox, and "Object Oriented Programming," alone or in combination, do not disclose or suggest, "representing each of a plurality of systems as a separate application mode modeling physical quantities of said each system . . . determining a representation of a partial differential equation system for each separate application mode corresponding to one of said plurality of systems" as recited in claims 1 and 42 or "defining a plurality of user-defined application modes modeling physical

quantities of an associated model . . . determining a representation of said partial differential equation system for said user-defined application modes of said associated model” as recited in claims 82 and 92. The Office’s attention is respectfully directed to FEMLAB User’s Guide page 1-6 which states, “to start creating a new model you click on the New tab and choose the application mode you want to work in.” Accordingly, the FEMLAB 1.0 product documentation only discloses selecting a single application mode the is transformed into a system of partial differential equations. One of the advantages of the present invention is the ability to handle multiple application modes and that these can be joined into a combined system.

Therefore, in view of the foregoing amendments and remarks, the Office is respectfully requested to reconsider and withdraw the rejection of claims 1, 42, 82, and 92. Since claims 2-41 depend from and contain the limitations of claim 1, claims 43-81 depend from and contain the limitations of claim 42, claims 83-91 depend from and contain the limitations of claim 82, and claims 93-101 depend from and contain the limitations of claim 92, they are distinguishable over the cited references and are patentable in the same manner as claims 1, 42, 82, and 92.

Additionally, FEMLAB 1.0 product documentation, PDE Toolbox, and “Object Oriented Programming,” alone or in combination, do not disclose or suggest, “converting at least one partial differential equation system included in said combined system of partial differential equations from coefficient to general form” as recited in claim 17, “converting said combined system of partial differential equations from coefficient to general form” as recited in claim 18, “machine executable code for converting at least one partial differential equation system included in said combined system of partial differential equations from coefficient to general form” as recited in claim 57, or “machine executable code for converting said combined system of partial differential equations from coefficient to general form” as recited in claim 58. As the Office has noted, the FEMLAB Reference manual at page 3-21 discloses that the coefficient form is most suited for linear or almost linear PDEs and at page 3-24 discloses that the general form is most suited for nonlinear PDEs. However, contrary to the Office’s assertions the FEMLAB Reference Manual at page 3-26 does not disclose or suggest converting at least one partial differential equation system from coefficient to general form or converting a combined system of partial differential equations from coefficient to general form. The Office’s attention is respectfully directed to the FEMLAB Reference Manual at page 3-26 which states, “The two forms are in fact

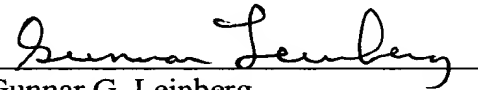
different representations of the same equation. This duality lets you choose the representation which suits your particular PDE best.” Accordingly, the FEMLAB Reference Manual discloses an option of selecting between coefficient or general form, but does not disclose converting at least one partial differential equation system from coefficient to general form or converting a combined system of partial differential equations from coefficient to general form. The reference on page 3-60 referenced on page 3-27 in the FEMLAB Reference manual simply states, “The non-linear solver femnlin solves a nonlinear PDE problem in coefficient or general form on a given mesh,” but again does not disclose or suggest the claimed conversion.

Therefore, in view of the foregoing amendments and remarks, the Office is respectfully requested to reconsider and withdraw the rejection of claims 17, 18, 57, and 58. Since claims 19-20 depend from and contain the limitations of claim 18 and claims 59-60 depend from and contain the limitations of claim 58, they are distinguishable over the cited references and are patentable in the same manner as claims 18 58.

In view of all of the foregoing, applicant submits that this case is in condition for allowance and such allowance is earnestly solicited.

Respectfully submitted,

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